

CLAIMS

What is claimed is:

1. A profiled stent for helping to hold open a lumen in living tissue comprising:

NID at least one support member having at least a first side, a second side, and a third side, and three rounded edges defined where the first and the second sides, the first and the third sides, and the second and the third sides meet.

2. The stent according to claim 1 further including a fourth side, wherein the second side is positioned opposite the first side, the third side adjoins the first and second sides, and the fourth side is positioned opposite the third side and adjoins the first and second sides, the profiled stent further including four corners defined where the first, second, third, and fourth sides adjoin, wherein the support member is profiled such that each of the four corners are round, while the first and second sides are substantially flat.

3. The stent according to claim 2 wherein the profiled stent includes a plurality of supporting members.

4. The stent according to claim 3 wherein all of the supporting members are profiled.

5. The stent according to claim 2 wherein the first and second sides are flattened by a swaging process.

6. The stent according to claim 2 further comprising:

the stent having a plurality of stent sections;
each of said plurality of stent sections having at least one support member; and
at least one of said plurality of stent sections being profiled.

7. A profiled stent for helping to hold open a lumen comprising:

at least one stent section;
said at least one stent section including at least one supporting member having a first side, a second side positioned opposite the first side, a third side adjoining the first and second sides, a fourth side positioned opposite the third side adjoining the first and second sides, and
four corners defined by the first, second, third, and fourth sides, wherein the four corners of the at least one support member are round, and the first and second sides are profiled such as to exhibit

substantially similar radii of curvature.

8. The stent according to claim 7 wherein said first and second sides are profiled to be substantially flat.

9. The stent according to claim 7 wherein said at least one support member is profiled.

10. The stent according to claim 7 wherein said at least one stent section further comprises:
a plurality of support members; and all said support members are profiled such that the surfaces of the first and second sides exhibit substantially similar radii of curvature.

11. The stent according to claim 7 further comprising:

a plurality of stent sections; each of said plurality of stent sections having at least one support member; and

at least one of said stent sections is profiled.

12. A method for producing a stent to be placed in a lumen in living tissue comprising the steps of :

manufacturing the stent; and

profiling the stent to create a profiled stent.

13. The method according to claim 12 wherein the lumen has an inner wall and the manufactured stent comprises at least one stent section including at least one supporting member having an outer wall and an inner surface radially opposing the outer surface, further including the step of:

profiling the manufactured stent such that the at least one support member of the profiled stent has a cross-section that is flatter than the cross-section of the at least one support member of the manufactured stent; and wherein the outer and inner surfaces are profiled to also exhibit substantially similar radii of curvature.

14. The method according to claim 12 further including the step of thermally processing the profiled stent.

15. The stent according to claim 14 wherein the stent is thermally processed by annealing.

16. The method according to claim 12 further including the step of electro-polishing the profiled stent.

17. The method according to claim 12 further including the step of profiling the stent using a swage machine.

18. The method according to claim 17 wherein the swage machine includes a mandrel and a die and further includes the steps of:

loading said stent onto the mandrel; and
drawing said mandrel through the die.

19. The method according to claim 12 further including the steps of:

placing the manufacturing stent into a sleeve;
and

advancing a forming tool through said stent in order to profile said stent.

RS A'